

13. (Amended) A method of fabricating a sensor element, comprising:
applying a solution including a thermosetting polymer to a sensor substrate to form a polymer film;

heating the polymer film to a temperature not lower than a fusing temperature and lower than a curing temperature of the thermosetting polymer;

heating the polymer film to a temperature not lower than the curing temperature to cure the resin film; and forming a sensor element on the resin film after curing of the resin film.

14. (Amended) The method of fabricating a sensor element according to claim 13, wherein the thermosetting polymer is selected from the group consisting of a silicone polymer, a polyimide polymer, a polyimide silicone polymer, a polyarylene ether polymer, a bisbenzocyclobutene polymer, a polyquinoline polymer, a perfluorohydrocarbon polymer, a fluorocarbon polymer, and an aromatic hydrocarbon polymer.

IN THE ABSTRACT:

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Abstract

The present invention provides a sensor element having a sensor substrate and a sensing portion supported by the sensor substrate. A resin film is provided between the sensor substrate and the sensing portion. The resin film has a high heat resistance to the temperature of the fabrication process and the use of sensor element, has excellent coverage of a three-dimensional structure, has a flat surface, applies a low stress to the sensing portion, is formed at low temperature, and prevents the sensing portion from being adversely affected in its fabrication process.